



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,285	03/25/2005	Gianluigi Angelantoni	47966.10.1	2039

22859 7590 11/29/2007
INTELLECTUAL PROPERTY GROUP
FREDRIKSON & BYRON, P.A.
200 SOUTH SIXTH STREET
SUITE 4000
MINNEAPOLIS, MN 55402

EXAMINER

WRIGHT, PATRICIA KATHRYN

ART UNIT	PAPER NUMBER
----------	--------------

1797

MAIL DATE	DELIVERY MODE
-----------	---------------

11/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/529,285

Applicant(s)

ANGELANTONI ET AL.

Examiner

P. Kathryn Wright

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "skid" (claim 22), the "complex of toothed wheels...in contact on the peripheral toothing of the corresponding disks..." (claim 25) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 16-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The claim broadly recites a robotic system which comprises a "horizontal axis" lying along a diameter of the stacked disks and a "vertical axis" movable along the horizontal axis. No vertical and horizontal structure is recited.

Claim 22 recites a "skid" movable along the horizontal axis. It is not clear what the limitation "skid" is intended to encompass. Furthermore, the specification does not define the "skid".

Claim 25 recites "the peripheral tothing of the corresponding disks". There is no antecedent basis for tothing on the periphery of the disk.

Claim 26 recites "the '0' device". There is no antecedent basis for an "0 device".

Similarly, claim 27 recites a "blocking device", there is no clear antecedent basis in the parent claims.

Claim 32 recites "the controlled-access opening". It is not clear if this "controlled-access opening" is the same or different than the previously recited "opening" of parent claim 16. No means for controlled access to the opening is disclosed in claim 16.

Claim 34 recites "each mechanism for driving and access" and "the chamber". It is not clear what "mechanisms for driving and access" applicant is referring to. Likewise, it is unclear which chamber applicant is referring to (i.e., upper or lower). Clarification is requested.

Claim 35 recites a "N/C system". It is not clear what applicant means by this limitation. Furthermore, the specification does not define what is meant by "N/C system"; the metes and bounds of the claim cannot be determined.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 16, 24-29, 31, 33, and 35-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Pressman et al. (US Patent Pub. No. 2003/02118487), hereinafter "Pressman".

Pressman teaches an automatic system for storage of vials containing sample. The Pressman system comprises a lower chamber wherein a stack of disks 330 are independently rotatable around a vertical axis. The system of Pressman includes an upper chamber separated from the lower chamber by means of a shelf 262 fitted with an opening 266. The disks are provided with locations 332 for storing the sample container and with radial slots 340 (see for example Fig. 17; see paragraph [0140] et seq.) The system includes a Cartesian robotic system 300 disposed in the upper chamber. The Cartesian robot of Pressman includes a pick-and-place arm 304 mounted on an elevator carriage 306 driven by a vertical (Y-axis) lead screw motor 308 atop a vertical standard 310. Arm 304 has a conventional electrically- or pneumatically-operated pick-up device (jaw-type gripper 312) adapted to grasp and move specimen vials 10 in three degrees of freedom. Arm motion in horizontal planes is afforded by lateral lead screw motor 314, which is pivotally mounted to vertical elevator carriage 306. The pick-up device 312 can move into and out of the lower chamber for loading or unloading the samples wherein.

With respect to claims 24-28, Pressman teaches a rotary outer spindle 350 which engages and rotates only one tray at a time so that the pick-and-place arm 304 can access vials therefrom by moving downwardly through an opening 266 in base plate 262 and past any idle trays via their homed notches 340. FIG. 14 shows the home

positions of the trays in dashed lines, with their notches 340 aligned and embracing outer spindle 350. The spindle 350 is rotated in a precision manner from the bottom by a computer-controlled rotation stepper motor 356 and a timing belt 358 engaging timing gears 360, 362. A downwardly facing optical rotary position sensor 363 located over the aligned tray notches detects when and how far a tray is rotated from its home position ("0" position) and provides control feedback for rotation of stepper motor 356. Within outer spindle 350 is an inner spindle 364 carrying eight pairs of opposed keys 365, one pair for each tray. The keys 365 project from outer spindle 350 through opposed slots 366 in the outer spindle (see FIG. 15a, which is a sectional view through the spindles and the center portions of the bottom two trays). A key home sensor 382 (encoder) is located at the top of inner spindle 364 to provide a reference point "0" position (claims 27-28).

Regarding claim 29 Pressman teaches a means for identifying the sample via data from the labeled specimen vial, (e.g. via a bar code reader) on a data entry terminal or accessioning station (see paragraph [0149]).

Claim 31 does not recite any structural elements and appears to be reciting a process limitation. Applicant is reminded that only structural language is determinative of the metes and bounds of a patent claim. Functional recitations, standing alone, while perhaps helpful in understanding the meaning of a claim and the invention that it represents, cannot be relied upon to distinguish over the prior art. Nevertheless, functional language in the claims must be given full weight and may not be disregarded in evaluating the patentability of the subject matter defined employing such functional

language. However, an applicant must establish that what is expressly taught by the prior art does not inherently function in the manner required by the claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 17-23, 30 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pressman (US Patent Pub. No. 2003/02118487) in view of Knippscheer et al (US Patent No. 5,233,844) hereinafter "Knippscheer".

The teachings of Pressman have been summarized previously, *supra*. Pressman does not teach a temperature-controlled thermo-insulated lower chamber, a thermally insulated shelf, or a controlled access opening into the lower chamber. However, it is conventional for a biological vials to be stored in an temperature-controlled thermo-insulated chamber, see Knippscheer.

Knippscheer teaches a cryogenic storage unit defining an upper and lower chamber, 122 and 22, respectively (see Fig. 1). The upper wall 50 of chamber 22 reads on the insulated shelf. Disposed inside insulated storage chamber 22 are a plurality of vertically disposed disks 24 that support a multiplicity of specimen-containing vials 28. As further illustrated in FIG. 1, housing 20 is provided on shelf 50 with a swingable or slidable door 100 for closing the access opening 48. Note that the door 100 can be opened and closed by a robot mechanism or actuator 102 under the control of computer 42. Knippscheer teaches that use of a temperature-controlled thermo-insulated chamber help to ensure the biological specimens can be stored almost indefinitely (see col. 1, lines 13, et seq.)

Accordingly, it would have been obvious to one of ordinary skill in the art to have included in Pressman, the temperature-controlled thermo-insulated lower chamber, of

Knippscheer, since it is well known that use of a temperature-controlled thermo-insulated chamber ensures the biological specimens can be stored almost indefinitely (see col. 1, lines 13, et seq.)

With respect to claims 20-21, the combined system of Pressman and Knippscheer discloses the claimed invention except for the access opening having a length at least equivalent to the maximum radial distance between two samples on the same disk or the radial slot having a length at least equivalent to the maximum radial distance between two sample on the same disk. However, it would have been an obvious matter of design choice to construct the lengths of the opening and radial slots in such a manner, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art.

Conclusion

11. No claims are allowed.
12. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure as general background information related to Applicant's field of endeavor.
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to P. Kathryn Wright whose telephone number is 571-272-2374. The examiner can normally be reached on Monday thru Thursday, 9 AM to 6 PM, EST.


Application/Control Number:
10/529,285
Art Unit: 1797

Page 10

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

pkw


Jill Warden
Supervisory Patent Examiner
Technology Center 1700